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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/770,089	01/24/2001	Nathan S. Lewis		7432

22428 7590 09/22/2005

FOLEY AND LARDNER  
SUITE 500  
3000 K STREET NW  
WASHINGTON, DC 20007

EXAMINER

HANDY, DWAYNE K

ART UNIT	PAPER NUMBER
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1743

DATE MAILED: 09/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/770,089

**Applicant(s)**

LEWIS ET AL.

**Examiner**

Dwayne K. Handy

**Art Unit**

1743

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 24 January 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 232-269 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 232-269 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>01/24/01</u> .  | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 232-234 and 238-269 are rejected under 35 U.S.C. 102(e) as being anticipated by Schultz et al. (5,985,356). Schultz teaches a method and apparatus for the preparation and use of a substrate. The method is described in general terms in columns 3-4 and again in columns 8-10. The method includes depositing at least a first and second material on to at least two different regions of a substrate and reacting them. The process is repeated to form a vast array of compounds at predefined locations on the substrate (col. 3, lines 35-48). Schultz discloses the use of a variety of substrates in column 11, lines 42-65 – including substrates having dimples or wells. In column 13, lines 24-67, Schultz again discloses dimple use and further teaches the use of barrier material between reaction regions. Schultz discloses delivery systems for delivering materials to the substrate in column 10. These systems include sputtering and spraying systems as well as CVD systems.

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In the Examples, Schultz discloses a method of combining two compounds in an iterative fashion to form an array of compounds having different properties. The Example having the most relevance to the instant claims is Example B (columns 33 and 34). In Example B, an array of 16 different organic polymers is formed on a 3 cm by 3 cm glass substrate. The organic polymers are formed from styrene and acrylonitrile monomers in toluene solvent that are delivered to the substrate and then reacted by addition of an initiator compound. The concentrations of the styrene and acrylonitrile compounds are varied in an iterative fashion when forming each of the 16 regions (Table III). The Examiner believes this method recited in Example B meets the claimed method of independent claim 1. The method includes providing a first solution of a first compound (styrene) at a concentration "x" and a second solution of a second compound (acrylonitrile) at a concentration "y" on a first region, and also providing a first solution of a first compound (styrene) at a concentration "x+a" and a second solution of a second compound (acrylonitrile) at a concentration "y+b" on a second region. In this Example,  $a = (-1.5)$  and  $b$  is equal to  $(+1.5)$ .

In claim 261, applicant has claimed a method where two compounds are placed into four regions instead of two. The Examiner directs applicant to Figures 3A-3F which shows at least two compounds being placed onto more than two regions of the substrate to form the reacted compound array. This is described in columns 18 and 19.

The Examiner wishes to note for applicant that the Examiner realizes that Schultz does not specifically recite the creation of a "sensor". The Examiner still believes, however, that Schultz anticipates the rejected claims. Applicant has broadly claimed a

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method for making a device that is basically comprised of placing two organic materials at or on a region. This is what Schultz teaches as well. The claim as currently written does not contain any elements that would distinguish the manufactured device as a "sensor". It does not contain any detection or control elements that would one would expect from a "sensor" or "sensor array".

### ***Inventorship***

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
  2. Ascertaining the differences between the prior art and the claims at issue.
  3. Resolving the level of ordinary skill in the pertinent art.
  4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
5. Claims 235-237 and 261-263 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schultz et al. (5,985,356). Schultz, as described above in paragraph 2, teaches every element of claims 235-237 except for the iteration variables 235-237. As noted above, Schultz teaches an iterative method of forming an array. The method includes the step of increasing the concentration of one compound a specified amount while decreasing the concentration of the second compound by a specified amount. In comparison to the claim, the Examiner considers this "specified amount" or "iterative variables" to yield and "a" equal to (-1.5) and "b" equal to (1.5). Schultz, then, does not teach steps in which "a" and "b" are equal, both "a" and "b" negative or both positive. It would have been obvious to one of ordinary skill in the art to use values of "a" and "b" that are equal or both positive/negative. One would change the iterative variables in order to create a greater number of compounds in the array.

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**Conclusion**

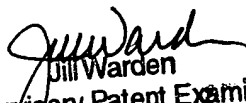
6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Lewis et al. (5,571,401) shows a sensor array.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dwayne K. Handy whose telephone number is (571)-272-1259. The examiner can normally be reached on M-F 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on (571)-272-1267. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DKH  
August 8, 2005

  
Jill Warden  
Supervisory Patent Examiner  
Technology Center 1700